

January 26, 1986



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GROUP 210

Donald J. Quigg
Commissioner of Patents and Trademarks
Washington, DC 20231

Dear Mr. Quigg:

This letter concerns a significant problem relating to national productivity. The problem relates to the operation of the United States Patent and Trademark Office (PTO) and the effective cost of obtaining high quality patents therefrom.

The writer of this letter -- who, as indicated by the enclosed background material, is an inventor who personally owns and prosecutes about 0.25% of all patents presently pending at the PTO within the category of "ELECTRICAL" -- has a unique vantage point from which to view and evaluate the operation of the PTO, as well as to perceive some of the ramifications of this operation.

Purposes of this letter are: i) to enunciate the indicated problem and to bring it to your attention, ii) to present a proposed solution aimed at mitigating the problem, iii) to solicit your cooperation in attempting to improve this proposed solution, and iv) to induce you to implement the proposed solution or an improved version thereof.

The reason for directing the letter to your personal attention has its root in: i) the reading by the writer of one of your published articles and in the resulting judgement on his part that you might be conducive to appreciating and understanding the issues involved herein, and ii) the fact that the writer has on two previous occasions written to the PTO in respect to proposals for improving its procedures, but have only received letters (from Assistant Commissioner for Patents) indicating non-interest on part of the PTO.

THE PROBLEM

The indicated problem relates to the poor quality of patents normally resulting from the examination procedures used by the PTO. In particular, the writer alleges that the quality of patents issued by the PTO is very far from being as high as it reasonably could be, and results in the following consequences:

- a) Inadequate protection for many significant inventions;
- b) Far fewer significant patents than otherwise would be the case;
- c) An excessive number of substantially worthless patents;
- d) Excessive uncertainty as to the validity, coverage, and strength of patents; and
- e) As consequence of above, a significantly lower national productivity as compared with what is potentially attainable.

While it is generally possible to attain good quality patents in spite of the limitations of the PTO, the cost in time and money makes it in most cases unattainable in reality.

The above-mentioned consequences are particularly important in view of the major problems presently encountered by large parts of American industry in terms of being "put out of business" by imports from foreign countries -- imports of products that were in many cases originally invented in the U.S. not so long before.

In fact, problems of competition from abroad based on technology invented in the U.S. have become serious even in the field of high technology products -- a field wherein U.S. companies used to have a completely dominant position.

Hence, for reasons additional to those already well recognized, the writer contends that the quality of the patents issuing from the PTO is of significant concern relative to our national interests.

THE GENERAL APPROACH TO SOLUTION

One potentially major weapon against unfair competition of this nature would be that of providing for the economically feasible possibility of attaining improved patent protection: improved in terms of permitting the cost-effective attainment of patents having stronger, clearer, broader, and more enforceable claims -- all completely within the confines of present statutes and recognized authorities.

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In particular, from the writer's point of view, by improving the operating procedures of the PTO, it would clearly be possible to achieve a situation wherein it would be economically feasible for patentees to attain very much higher quality patents -- without imposing any unreasonable requirements on the PTO.

(Of course, an additional important weapon against such unfair competition from abroad could be had by modifying the statutes: by lengthening the term of patent protection. After all, why should a musical composition having little if any utilitarian value get protection for over 50 years; while a technological composition having utilitarian value (namely, an invention) get protection for only 17 years?)

QUALIFICATIONS OF THE WRITER

With reference to the enclosed background material, the writer has a graduate degree in electronics engineering from an accredited school and has had more than 20 years of industrial experience in the area of research, product development and engineering. Most of these years were spent in various project and/or R&D management positions with three different major U.S. corporations.

The writer has published a substantial number of papers in the field of electronic circuits and systems, and he has about 50 U.S. patents issued in his name.

Presently, the writer works full time in his own business, which is that of "making and marketing intellectual property". In particular, he has licensed a number of inventions to various companies and he is currently involved in efforts at licensing many more, as well as in efforts at generating and protecting still additional inventions suitable for licensing.

At the present time, the writer has about 95 patents pending at the PTO. He is personally the inventor behind each one of these pending patents, and he is personally responsible for all details of their prosecution. In this connection, he has had repeated occasions personally to deal with quite a number of different Examiners and to observe their salient characteristics: their similarities and differences in prosecution *modus operandi*.

The writer has found his overall productivity to be very severely reduced on account of inefficient prosecution of patent applications on part of the PTO.

The writer has verified the essential truth in the old cliché that there are as many standards of patentability as there are Examiners.

ELEMENTS OF PROBLEM

Key elements of the problem associated with the prosecution of patents through the PTO relate to the issue of perceiving and determining patentability under 35 U.S.C. 103.

From the writer's viewpoint, Examiners have been given discretionary authority far beyond their ability to handle in a responsible and efficient manner, particularly in view of their "productivity" constraints.

In order to understand the nature of the various elements of the problem, it is necessary to identify different key components of an invention.

For convenience in subsequent discussion, an invention may be accurately thought of as belonging to one of three types.

a) An invention may represent an unobvious solution to an obvious problem;

b) an invention may represent an obvious solution to an unobvious problem; or

c) an invention may represent an unobvious solution to an unobvious problem.

In this connection, it is to be understood: i) that an unobvious problem refers to any situation that was not perceived as a problem (or as an opportunity, for that matter) by a person of ordinary skill in the art at the time the invention was made, and ii) that an unobvious solution refers to any solution that could not expectedly have been provided (to a known or obvious problem) by a person of ordinary skill in the art at the time the invention was made.

As should be abundantly clear from fundamental reasoning, an invention representing a solution to an unobvious problem is just as much of an invention as is an invention representing an unobvious solution to an obvious problem; and -- according to authorities already recognized by the PTO -- such inventions are indeed both patentable.

In view of above definitions, the various elements of PTO's problem in connection with rationally determining patentability under 35 U.S.C. 103 may be identified.

As set forth below --MPEP 706.02 and/or "Graham v. John Deere Co." notwithstanding -- and judging on the basis of actual behavior by Examiners, the PTO does not in reality require their Examiners to rationally present and justify their decisions in respect to rejecting a claim under 35 U.S.C. 103.

1. Examiners generally do not clearly identify the art to which the claimed invention belongs. Without providing an express definition of this art, an Examiner is free to (and apt to) operate on a fuzzy and/or "floating" definition, thereby making it hard both for Examiner and Applicant to argue the case on a consistent and rational basis.

2. Examiners generally do not clearly identify the key characteristics of a person of ordinary skill in the defined art. Without providing an express definition of this person, an Examiner is free to (and apt to) operate on a fuzzy and/or "floating" definition, thereby making it hard both for Examiner and Applicant to argue the case on a rational basis.

3. Examiners generally do not provide a description of an obvious problem for which the claimed invention represents a solution. Without having an express description of such a problem, an Examiner is free to (and apt to) operate on a fuzzy and/or "floating" description, thereby making it hard both for Examiner and Applicant to argue the case on a rational basis.

In this connection, it is clearly not sufficient for Examiner just to describe a general problem for which many different inventions or combinations can provide solutions, including already patented inventions and/or available products. Rather, based on the authority of fundamental logic and straight-forward reasoning, it is clearly necessary to describe a problem that requires for its solution all of the features of the claimed invention.

This lack of appreciation for the necessity of defining a problem for which the claimed invention represents a solution represents perhaps the most important element of the overall problem associated with the alleged inefficient operation of the PTO.

4. Even if they do alledge an obvious problem to exist, Examiners generally do not provide evidence of the existence of such an obvious problem.

And, of course, absent evidence of such an obvious problem, it is wholly inappropriate to reject a claim under 35 U.S.C. 103.

5. Examiners generally do not provide a rationale for their selection and/or combination of references. Absent an express rationale to such effect, it becomes impossible to argue the case on a rational basis.

In this connection, Examiners generally do not identify a reasonable starting point for their considerations. Clearly, without having some sort of rational starting point (such as a quotation from a given reference), it is not going to be possible to provide a credible rationale for identifying and/or combining other references.

6. Examiners generally do not provide adequate explanations in respect to how they have in mind modifying and/or combining references in order to arrive at the claimed invention. Clearly, without knowing at least one way in which a set of references are supposed to be modified and/or combined, it becomes non-feasible for Applicant to argue the case on a rational basis.

In this connection, the writer can cite numerous cases presently under prosecution wherein Examiner argues that it is not required of him to provide details in respect to how to combine the applied references such as to attain the claimed invention. Yet, Applicant -- having much more than just ordinary skill in the art -- can not see any way in which the applied references can be combined in such manner as to achieve all the fetures of the claimed invention.

On the other hand, Applicant can see several ways in which a person of but average skill in the art might consider attempting to accomplish the combination, but where -- upon actually attempting to do so (even if just on paper) -- he would discover that for one or another (perhaps subtle) reason the combination could not be successfully completed.

Now, obviously, when a situation exists where an Examiner asserts that this and/or that reference can be modified and/or combined in such manner as to attain the claimed invention, and where several different possibilities for modification and/or combinations might exist, the burden must be on the Examiner to specifically and completely identify at least one specific modification and/or combination that attains all the features of the claimed invention. Otherwise, the burden on Applicant would be absolutely unreasonable: he would then have to attempt to guess and analyze every conceivable way in which Examiner might possibly have in mind to accomplish his proposed modification and/or combination.

7. Examiners at the PTO apparently operate on the general assumption that a person of ordinary skill in the art should be familiar in complete detail, not only with all the published art in his own field of expertise, but also with all the published art in all fields. Moreover, they apparently reason that this person of ordinary skill in the art has all of this art in his mind all of the time, thereby enabling him routinely to make any kind of obvious combinations from these many references.

This type of reasoning, which the PTO states as being based on authoritative court precedents, is clearly unreasonable (not to say totally ludicrous). It reveals a profound lack of understanding as to how the real world of engineering and invention operates. No one, not even the most extra-ordinary person, would have direct and detailed knowledge of more than a tiny fraction of all the published art in a given field of expertise, let alone of all the published art in all fields of expertise.

Based on this type of reasoning, Examiners argue that it is appropriate to combine any number of prior art references and argue obviousness on the basis of what this combination might reasonably suggest to a person of ordinary skill in the art.

Clearly, no person of ordinary disposition would spend a vast amount of time to look through a vast number of prior art references simply to see what combinations he could thereby identify.

Instead, a person of ordinary disposition would not seek to combine prior art references except if he had a rational motivation for doing so; and such rational motivation would have to be of such nature as to be clearly perceived and understood by this person.

CONCLUDING THOUGHTS IN RE PROBLEM

In respect to determining patentability under 35 U.S.C. 103, Examiners generally do not provide an evaluation analysis that is complete and rational. Far too large a part of the analysis is relegated to an unenunciated "gut feel" level; which level is not amenable to rational discussion and decision making.

As a result, to compensate for the uncertainties invariably resulting from such non-rational analysis, resulting patents generally become so encumbered with limitations as to be of little or no commercial value. Moreover, they become suspect as to validity.

It is the opinion of the writer that over 90% of all issued patents are of such nature as to be essentially worthless. In fact, they may be considered as having negative value in that they represent flak operative to obscure and derogate the value of the remaining patents.

[Of course, most patent attorneys can't be expected to care much, since their clients don't know the difference anyway. Thus, there exists a real cozy and mutually beneficial relationship between patent attorneys and patent examiners: the attorneys get their watered-down claims without much effort, thereby permitting them with minimal efforts to satisfy their mostly naive clients; and, on the other hand, the examiners don't have to spend much effort on the examination since the allowed claims are so special (and narrow) as to be almost certainly unobvious (as well as correspondingly worthless) to any person of ordinary skill in the art.]

ELEMENTS OF PROPOSED SOLUTION

The problems discussed above can be greatly mitigated by providing at the PTO an improved operating procedure in connection with evaluating a claimed invention for patentability under 35 U.S.C. 103.

Underlying the following considerations is the notion that it is not necessary for every Examiner to have the ability to think clearly in order to produce a high quality patentability examination; it is only necessary for the person in overall charge to think clearly, and to institute an operational procedure that minimizes the requirements of competence on part of the Examiners.

In particular, the writer proposes -- as a first and preferred alternative -- that the PTO adopt the following explicit procedure for evaluating a given invention in respect to patentability.

1. A first Examiner should be required to expressly define the art to which the claimed invention belongs.

2. This first Examiner should also be required to expressly define the key characteristics of a person of ordinary skill in the defined art.

3. Of course, to make the PTO procedure consistent and efficient, for most situations, the above definitions could be standardized and drawn from a library of "boiler-plate" expressions.

4. Then, the first Examiner should evaluate the claimed invention for novelty. And, if he finds the claimed invention to have been anticipated, or if finds it to be non-patentable for any reason other than for possible obviousness under 35 U.S.C. 103, the Examiner should so communicate to the Applicant.

5. However, if -- either initially or after amendments resulting from dealings with Applicant -- the first Examiner finds that the claimed invention would be patentable except for possible obviousness under 35 U.S.C. 103, he should be required to expressly identify the best "starting position" for a patentability evaluation under 35 U.S.C. 103. This "starting position" should generally be explicitly derived from a single reference drawn from the defined art; although it might perhaps, on some occasions, be appropriate to form the "starting position" by explicitly combining parts from two or more closely related references from the defined art.

6. Now, combined with the express definitions of the prior art and of the person of ordinary skill therein, the expressly identified "starting position" should be provided to a second Examiner, who -- without having been exposed to the invention under evaluation -- should be required to expressly identify any suggestions provided to him by the expressly identified "starting position". In so doing, the second Examiner should play the role of being the person defined as being of ordinary skill in the defined art.

Of course, based on what he finds in the material provided to him in the form of the "starting position", the second Examiner may now identify and use any number of additional references, including any number of persons of ordinary skill in the defined art.

After having studied the "starting position" and any references having resulted therefrom, the second Examiner should be required to provide an explicit description of the suggestions he had been able to perceive from the "starting position" provided him.

7. Then, if the second Examiner had indeed succeeded in arriving at the claimed invention (or the substantially equivalent thereof) from the "starting position" provided to him, it would be appropriate for the PTO to reject the claimed invention as being unpatentable under 35 U.S.C. 103. Otherwise, of course, the claimed invention would have to be allowed.

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In the writer's opinion, the first and preferred alternative described by sections 1-7 above constitutes a realistic procedure for determining patentability under 35 U.S.C. 103. Its salient feature is that it would substantially eliminate the problem of hindsight in connection with evaluating a claimed invention. And, according to the experience of the writer, the (probably unwitting) reliance on hindsight constitutes a major and most insidious factor in such evaluation under PTO's present procedures.

However, if it were to turn out that the first and preferred alternative should be unacceptable, the writer suggests the following second alternative procedure for evaluating a given invention for patentability.

a) First, an Examiner should be required to expressly define the art to which the claimed invention belongs.

b) The Examiner should then be required to expressly define the key characteristics of a person of ordinary skill in the defined art.

c) Of course, as in the first preferred alternative, to make the PTO procedure consistent and efficient, for most situations, the above definitions could be standardized and drawn from a library of "boiler-plate" expressions.

d) Then, if Examiner finds that the claimed invention would be patentable except for possible obviousness under 35 U.S.C. 103, he should first investigate for "obviousness of problem". That is, he should attempt to identify an obvious problem for which the claimed invention represents a solution. However, this obvious problem must be of such nature as to require for its solution all of the features of the claimed invention.

If Examiner can not identify such an obvious problem, he can not reject the claimed invention under 35 U.S.C. 103.

However, if Examiner does succeed in identifying such an obvious problem, he must be required to provide an express description of this problem, and he must provide evidence to the effect that this expressly described problem was indeed obvious to the defined person of ordinary skill in the defined art.

If he can provide no credible evidence to that effect, Examiner must allow the claimed invention.

c) On the other hand, if Examiner does succeed in substantiating "obviousness of problem", his next task must be that of attempting to establish "obviousness of solution". Thus, he must be required to expressly identify a "starting position" and a "trail of reason" clearly and obviously leading from the "starting position" to the claimed invention.

If Examiner finds it necessary to invoke more than a single reference in order to substantiate "obviousness of solution", he should be required to provide evidence to the effect that the additional reference(s) were suggested by the "starting position".

Also, Examiner should be required to provide an express description of at least one specific way in which the cited reference(s) can be modified and/or combined in such a way as to attain the claimed invention.

In the writer's opinion, the second alternative procedure described by sections a-e above -- while not as desirable as the first alternative procedure -- would represent a major improvement over the procedure presently used by the PTO.

CONCLUDING REMARKS

From the writer's perspective, the PTO presently operates at a very low level of effectiveness as compared with what is reasonably attainable with but modest changes in operating procedure. The result of this low effectiveness ultimately translates into reduced national productivity and competitiveness vis-a-vis foreign industry.

The main limitation in the PTO's present operating procedure relates to its methods for determining patentability under 35 U.S.C. 103. In particular, the presently used procedure gives rise to severe problems in connection with effects of hindsight.

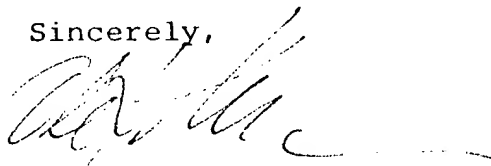
The writer has proposed two alternative approaches for improving the PTO's operating procedure. Of these two, the writer prefers one that requires the use of two separate Examiners for each patent application: one Examiner would be used for doing the prior art definition and basic search; the other Examiner would thereafter have to attempt to attain the claimed invention from the result of the search -- without knowing the specific nature of the claimed invention.

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Of the two proposed approaches, the preferred one would be the most cost-effective. In the writer's opinion, it would -- for results of a given quality -- significantly reduce the amount of Examiner man-hours required by the PTO for disposing of a typical patent application.

In conclusion, Mr. Quigg, the writer requests of you seriously to consider modifying PTO's operating procedure along the lines herein suggested. As a first step in such a direction, the writer would be willing to visit with you in Washington, thereby to permit a more in-depth discussion of the issues and proposed solutions.

Sincerely,

A handwritten signature in dark ink, appearing to read 'Ole K. Nilssen', with a long horizontal flourish extending to the right.

Ole K. Nilssen